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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,317	02/13/2004	Miodrag Temerinac	Micronas.7435	5210

7590 11/29/2004  
Patrick J. O'Shea  
Gauthier & Connors LLP  
Suite 3300  
225 Franklin Street  
Boston, MA 02110

EXAMINER

JEAN PIERRE, PEGUY

ART UNIT PAPER NUMBER

2819

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/779,317	<b>Applicant(s)</b> TEMERINAC ET AL.	
	<b>Examiner</b> Peguy JeanPierre	<b>Art Unit</b> 2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/13/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/17; 9/07</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on 2/13/2004. It is noted, however, that applicant has not filed a certified copy of the German application as required by 35 U.S.C. 119(b).

### ***Information Disclosure Statement***

2. The information disclosure statements filed on 5/17/2004 and 9/7/2004 have been considered.

### ***Specification***

3. The abstract of the disclosure is objected to because it contains more than one paragraph, in addition, the abstract should not refer to purported merits or speculative application of the invention. Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 112***

4. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is confusing. The claim recites "an analog to digital converter that comprises an input signal (line 3) and a digital compensation circuit having the input signal. It is not clear whether the input signal is analog or digital or originates from the A/D converter or the same signal (analog or digital) is inputted into both the A/D converter and the digital compensation circuit. Please clarify.

Art Unit: 2819

In claim 3, the term "the current adaptive coefficients" lack antecedent basis;

In claim 6, the term "the signal map" lacks antecedent basis;

In claim 10, the term " the square of the differences" is unclear. It is not known what differences the claim is referring to. In addition, the term lacks antecedent basis;

In claim 13, lines 2-3, the term " the current coefficient set" lacks antecedent basis;

In claim 15, line 2, the term " the signal of the data to be compensated..." lacks antecedent basis;

In claim 17, line 5 and claim 18, line 4, the term " a foregoing claim" is unclear;

In claim 19, the term " the analog input lacks antecedent basis.

The claims as understood by the examiner recite a method of correcting non-linearity in the output of an analog to digital converter by a digital compensation circuit.

An art rejection of the claims as understood by the Examiner appears below.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an

Art Unit: 2819

application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Raz (USP 6,639,537).


Raz discloses in Figure 4 a system that corrects non-linearity in the output of an analog to digital converter. The system comprises an analog to digital converter (112) whose nonlinear digital output (see col. 2, lines 31-34) is inputted into a compensation circuit (120) a test signal generator (100) is inputted into the front end of the analog to digital converter. The compensation circuit (120) is an adaptive filter coefficient that generates a plurality of sets of coefficients (see col. 2, lines 41-48) to compensate for the nonlinear distortions of the digital data outputted from the ADC converter. The digital compensation circuit is coupled to an equalizer (116) that comprises a plurality of filters. The coefficients of the filters are chosen in such a way to minimize error functions related to the output, the equalizer is implemented using a set of polynomial functions (see col. 6, lines 5-29). The test signal generator generates test signal that has a dynamic range on the order of the weakest inter modulation and harmonic distortion products to be equalized. It is also known to use a phase configuration technique using memory and/or table lookup to minimize ADC non-linear distortions.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. OH (USP 6,265,949), Pellon (USP 6,271,781), and Doidic (USP 5,789,689) disclose method to reduce non-linearity in ADC output.

Art Unit: 2819

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peguy JeanPierre whose telephone number is (571) 272-1803. The examiner fax phone number is (571) 273-1803.

  
Peguy JeanPierre  
Primary Examiner